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EXAMINER

WANG, TED M

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/624,236

Applicant(s)

HADAD, ZION

Examiner

Ted M Wang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-6 and 8-11 is/are rejected.
- 7) ☐ Claim(s) 7 and 12-15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

1. Claim 1-15 are pending in the application.

Specification

2. The disclosure is objected to because of the following informalities:

- Extra character "a" in line 1 of Abstract of the Disclosure.
- The "second" should be changed to "third" in page 10, line 12.
- The "systems" should be change to "system" in claim 4, line 1.

Appropriate correction is required.

Claim Objections

3. Claim 12-15 are objected to because of the following informalities: In regard claim 12, the step D is missing. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Pierzga et al. (US2001/0055320A1).

- In regard claim 1, Pierzga discloses a communication system (Fig.1) or transceiver with a subcarrier allocation control (Fig.8 elements 120, 160,150,

paragraphs 108 and 110), connected to a subcarrier modulation unit (Fig.8 element 120, paragraph 107 lines 6-7) in a transmitter (Fig.8) and to a subcarrier demodulation unit (Fig.17 element 339) in a receiver (Fig.8) for setting a group of subcarriers to be used therein, wherein the transmitter and the receiver are part of the transceiver (Fig.1) and wherein the subcarriers allocation (paragraph 83) is made to a Reed-Solomon code (Fig 9 element 121, paragraph 110, and Fig.27 element 321, paragraph 251 lines 9-11).

- In regard claim 2, the limitation of the transceiver that is a wireless cellular device can be found in Fig. 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pierzga et al. (US2001/0055320A1) in view of Chen (5,987,061).

- In regard claim 3, Pierzga discloses all limitation except specifically teaching that the transceiver is an xDSL device. Chan discloses a wireless communication system with respect to xDSL to individual user (Fig. 2a, 2d, and 2e, paragraphs 10 lines 54-67, paragraph 11, and paragraph 12 lines 1-54) to get higher speed data rate for viewing good quality Internet graphic and real time video. It would

have been obvious to one of ordinary skill in the art at the time of the invention to modify Pierzga's communication system in view of Chen's teaching to include the transceiver as an xDSL device in order to get higher speed data rate for viewing good quality internet graphic and real time video.

8. Claim 4, 5, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pierzga et al. (US2001/0055320A1) in view of Nicolas et al. (Acoustics, Speech, and Signal Processing, 1994. ICASSP-94., 1994 IEEE International Conference on , Volume: iii , 19-22 April 1994 Page(s): III/245 -III/248 vol.3)
- In regard claim 4, Pierzga discloses a communication system with a serial to parallel conversion function unit (Fig.16C, elements 1391a-1391c, and bit input), a subcarrier modulation unit (Fig.8 element 120, paragraph 107 lines 6-7), a subcarrier allocation controller (Fig.8 elements 120, 160,150, paragraphs 108 and 110) connected to converter, and a parallel to serial converter (Fig.14 137a-137b, and paragraph 151 line 1-3) except specifically teaching a multicarrier modulation (MCM) unit in transmitter. Nicolas et al. teaches that the multicarrier modulation (MCM) has been proposed as a scheme for the transmission of data over variety of channels including voiceband data channel and high-speed digital subscriber lines (HDSL), and broadcast channels (INTRODUCTION lines 1-14) to optimize the intersymbol interference channel. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pierzga's communication system in view of Nicolas's teaching to include a multicarrier

modulation (MCM) unit in transmitter in order to optimize the intersymbol interference channel.

- In regard claim 5, the limitation of the subcarriers allocation controller allocating subcarriers using a Reed-Solomon (R-S) code scheme can further be found in Pierzga's teaching (Fig 9 element 121, paragraph 110, and Fig.27 element 321, paragraph 251 lines 9-11).
 - In regard claim 8, the limitation of using a group of 22 carriers that is allocated to one user is a method of design choice and there is no patentable significant.
9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pierzga et al. (US2001/0055320A1) in view of Nicolas et al. (Acoustics, Speech, and Signal Processing, 1994. ICASSP-94., 1994 IEEE International Conference on , Volume: iii , 19-22 April 1994 Page(s): III/245 -III/248 vol.3) and further in view of Lin et al. (Error Control Coding, Prentice-Hall series in computer application in Electrical Engineer, QA268.L55, 1983).
- In regard claim 6, Pierzga and Nicolas disclose all limitation except specifically teaching a shifted version of a Reed-Solomon (R-S) code. Lin teaches that Reed-Solomon code is a cyclic code (page 85 lines 11-18) and is an important subclass of linear block codes for error detection, where a new codeword in the code can be formed by shifting the elements along one place and taking one off the end and putting it on to the beginning (page 170-171) in order to find the error symbol locations and correct the errors. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pierzga's and

Nicolas's communication system in further view of Lin's teaching in order to find the error symbol locations and correct the errors.

10. Claim 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pierzga et al. (US2001/0055320A1) in view of Yahagi (EP 0,971,554A2).

- In regard claim 9, which is a method claim related to claim 1, Pierzga et al. discloses a multicarrier system with a table of R-S codes for frequency group allocation to base station and one set of subcarriers based on R-S codes to a base station (Fig. 6a, and paragraphs 95 and 96) except specifically teaching to assigning other set of subcarriers based on R-S code to other station. Yahagi teaches a diffusing code for a forward channel transmitted from the base station to mobile terminal is different for each station in order to improve the handoff process and reduce the interference. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pierzga's communication system in view of Yahagi's teaching in order to improve the handoff process and reduce the interference.

- In regard claim 10, all limitation can further be taught by Pieizga in Fig.6a.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pierzga et al. (US2001/0055320A1) in view of Yahagi (EP 0,971,554A2) in further view of Zehavi et al. (PT 6,044,074) .

- In regard claim 11, Pierzga and Yahagi discloses all limitation except specifically teaching a base station having sectorized coverage, a plurality of codes that are assigned to that station for use with the various sectors. Zehavi et al. teaches

binary sequences or a plurality of codes can be used to discriminate between signals transmitted by different base stations or over different beams or sectors (paragraph 2 lines 16-37) in order to have a greater bandwidth than that of data signal. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pierzga's and Yahagi communication system in further view of Zehavi's teaching in order to have a greater bandwidth than that of data signal.

Allowable Subject Matter

12. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Reference 6,112,080 and 5,809,060 are cited because they are put pertinent to the Wireless communication. However, none of references teach detailed connection as recited in claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (703) 305-0373. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M Wang
Examiner
Art Unit 2634

Ted M. Wang


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